



# OIL ANALYSIS REPORT

|                 |        |
|-----------------|--------|
| WEAR            | NORMAL |
| CONTAMINATION   | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id  
**LIEBHERR 1400 CR4405 (S/N 0015-108)**  
 Component  
**Front Left Track Drive**  
 Fluid  
**GEAR OIL ISO 220 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number  |     | Client Info |           | <b>WC0935957</b>   | WC0823360   | ---      |
| Sample Date    |     | Client Info |           | <b>08 May 2024</b> | 16 Oct 2023 | ---      |
| Machine Age    | hrs | Client Info |           | <b>9661</b>        | 9409        | ---      |
| Oil Age        | hrs | Client Info |           | <b>252</b>         | 1000        | ---      |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 1000        | ---      |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | ---      |
| Filter Changed |     | Client Info |           | <b>Not Changed</b> | Changed     | ---      |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ---      |

## WEAR

All component wear rates are normal.

|              |        |             |       |              |      |     |
|--------------|--------|-------------|-------|--------------|------|-----|
| Iron         | ppm    | ASTM D5185m | >1000 | <b>0</b>     | 3    | --- |
| Chromium     | ppm    | ASTM D5185m | >30   | <b>&lt;1</b> | <1   | --- |
| Nickel       | ppm    | ASTM D5185m | >7    | <b>&lt;1</b> | 0    | --- |
| Titanium     | ppm    | ASTM D5185m |       | <b>0</b>     | <1   | --- |
| Silver       | ppm    | ASTM D5185m |       | <b>0</b>     | 0    | --- |
| Aluminum     | ppm    | ASTM D5185m | >25   | <b>&lt;1</b> | 4    | --- |
| Lead         | ppm    | ASTM D5185m | >50   | <b>0</b>     | 0    | --- |
| Copper       | ppm    | ASTM D5185m | >100  | <b>0</b>     | <1   | --- |
| Tin          | ppm    | ASTM D5185m | >5    | <b>1</b>     | 0    | --- |
| Vanadium     | ppm    | ASTM D5185m |       | <b>0</b>     | <1   | --- |
| White Metal  | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE | --- |
| Yellow Metal | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE | --- |

## CONTAMINATION

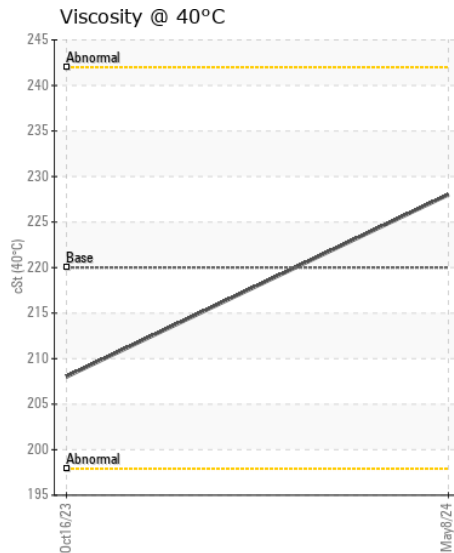
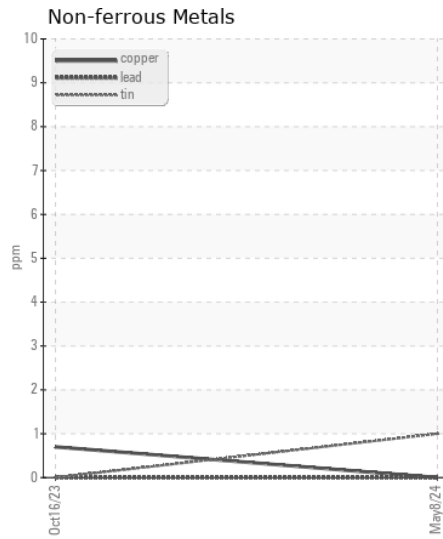
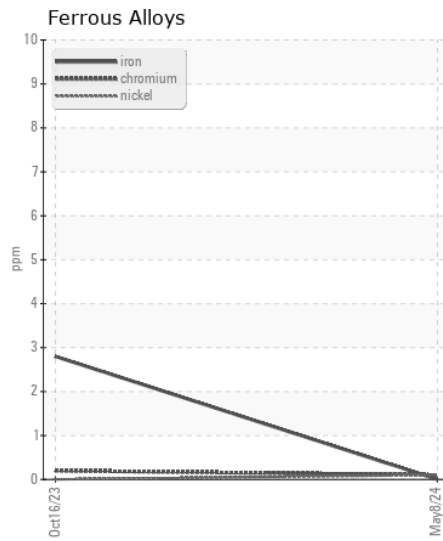
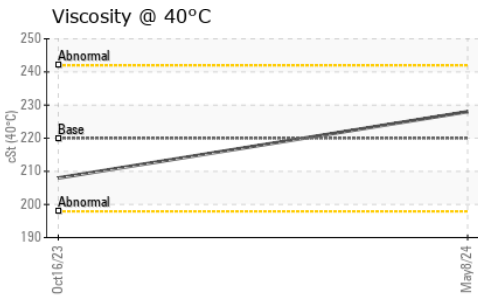
There is no indication of any contamination in the oil.

|                  |        |             |       |              |       |     |
|------------------|--------|-------------|-------|--------------|-------|-----|
| Silicon          | ppm    | ASTM D5185m | >150  | <b>0</b>     | 2     | --- |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>3</b>     | 3     | --- |
| Water            |        | WC Method   | >0.2  | <b>NEG</b>   | NEG   | --- |
| Silt             | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Debris           | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Sand/Dirt        | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Appearance       | scalar | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Odor             | scalar | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Emulsified Water | scalar | *Visual     | >0.2  | <b>NEG</b>   | NEG   | --- |

## FLUID CONDITION

The condition of the oil is acceptable for the time in service.

|             |     |             |       |              |      |     |
|-------------|-----|-------------|-------|--------------|------|-----|
| Sodium      | ppm | ASTM D5185m |       | <b>0</b>     | 2    | --- |
| Boron       | ppm | ASTM D5185m | 50    | <b>15</b>    | 19   | --- |
| Barium      | ppm | ASTM D5185m | 15    | <b>&lt;1</b> | <1   | --- |
| Molybdenum  | ppm | ASTM D5185m | 15    | <b>0</b>     | 0    | --- |
| Manganese   | ppm | ASTM D5185m |       | <b>0</b>     | 0    | --- |
| Magnesium   | ppm | ASTM D5185m | 50    | <b>3</b>     | 1    | --- |
| Calcium     | ppm | ASTM D5185m | 50    | <b>6</b>     | 40   | --- |
| Phosphorus  | ppm | ASTM D5185m | 350   | <b>1045</b>  | 841  | --- |
| Zinc        | ppm | ASTM D5185m | 100   | <b>0</b>     | 5    | --- |
| Sulfur      | ppm | ASTM D5185m | 12500 | <b>1994</b>  | 1959 | --- |
| Visc @ 40°C | cSt | ASTM D445   | 220   | <b>228</b>   | 208  | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0935957  
**Lab Number** : 06177914  
**Unique Number** : 11029240  
**Test Package** : CONST

**Received** : 13 May 2024  
**Tested** : 14 May 2024  
**Diagnosed** : 15 May 2024 - Sean Felton

**BUCKNER HEAVY LIFT**  
 4732 NC 54 EAST  
 GRAHAM, NC  
 US 27253-9215

Contact: MICHAEL LAWSON  
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To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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